

# **Cropland Idling**

## **Issue No. 1 - DRAFT Rice Water Transfer Pattern**

### **Background**

#### **Issue**

Currently the amount of water that is transferrable from North to South of the Delta is established using the evapo-transpiration pattern of applied water (ETAW). In practice, the ETAW pattern differs substantially from the water delivery pattern for rice. If the reduced diversions resulting from transfers cannot be “backed-up” into storage, there is the potential that a significant amount of transferrable water will come out of overall project yield.

#### **Discussion**

North to South water transfers have evolved over the last decade. During this time, Endangered Species Act fishery criteria have added to constraints on exports and rice idling transfers have become one of the major mechanisms for freeing up transferrable water. As a result, rice idling transfers must be pursued with more technical rigor than has happened in the past.

The historical guidance for determining how much water is made available for transfer from idling is based on the ETAW pattern of the crop. The guidance also states that water made available for transfer has benefit during the period of time the Delta is in balanced conditions and that these supplies can be stored or credited to the transferor upon agreement with California Department of Water Resources (DWR) or the Bureau of Reclamation (Reclamation).

The ETAW pattern and observed river diversion pattern differs for rice, in which, early season river diversions are significantly higher than the amount of water accounted for ETAW. The pattern switches later in the summer months. The real water accounting problem is that the Delta is not in balanced conditions until late spring/early summer when the river diversions of water to rice are higher than the ETAW. Much of this water stays on the field and is used later in the summer to satisfy ETAW.

The problem is that if the Projects cannot effectively utilize or manage for the change in river diversion due to rice idling, then the Projects are impacted in real water terms due to the accounting of ETAW pattern versus river diversion for rice. This problem is primarily a Central Valley Project (CVP) operators’ concern focusing on Sacramento Valley settlement contractors who divert water directly from the Sacramento River; but, it is also of some concern to State Water Project (SWP) operators regarding those SWP settlement contractors who divert water directly from the Feather River. SWP

settlement contractors who divert water directly from Thermalito Forebay are not affected by this issue.

For reservoir operators, it is becomingly increasingly more difficult to “back up” river diversion changes due to crop idling programs that change river diversion patterns because of severe restrictions on export facilities in the Delta. Figure 1 shows the different patterns based on ETAW and diversions based on rice fallow in a typical water district on the Sacramento River. Table 1 indicates the difference in transferrable water if diversion pattern is used under two different scenarios of the Delta going into balance conditions.

An additional concern is that when rice is idled, the water that typically drains back to the river later in the summer is no longer available for Project operations. This requires a change the CVP operations which can lead to additional reductions in the amount of water that is returned to the river and exported for Project uses.

## **Recommendations for 2010**

- Project agencies will brief management on recommendation to stay with ETAW pattern for 2010. This could include recommendation that if Delta is in a “balanced state”, then the CVP and SWP will “back-up” rice water diverted in May and June into their respective upstream reservoirs. However, the Projects cannot guarantee that this action will occur in 2010 because other Delta conditions unknown at this time may restrict movement of water North to South.

## **Future Discussion for the Long-Term Program**

- Determine the magnitude of the difference in amount of transferrable water between ETAW and river diversion accounting methods.
- Explore if there are other methods for accounting for the transferrable water from rice idling.

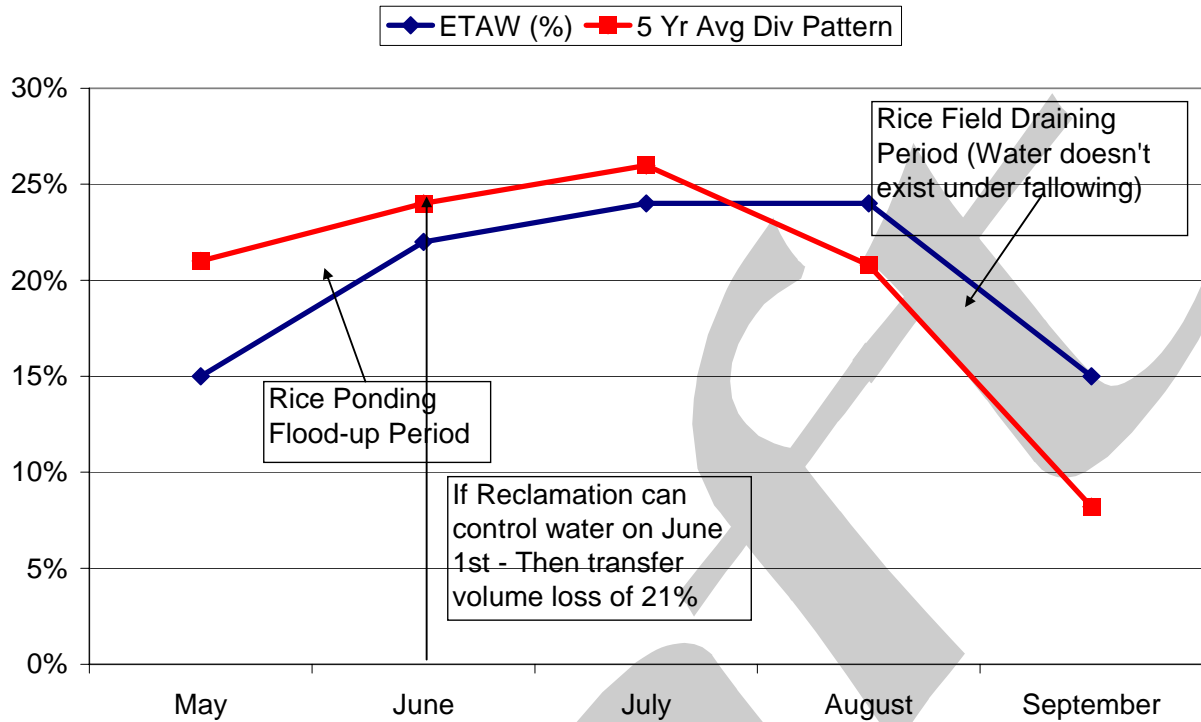


Figure 1. Sample Sacramento Monthly Diversions (%)

Table 1. Transferable Water Volumes under Varying Delta Balance Scenarios

	May	June	July	August	Sept	Difference in Transferrable Water June 1 in Balance	Difference in Transferrable Water July 1 in Balance
Annual Rice ETAW (AF/A)	3.3	3.3	3.3	3.3	3.3		
Monthly River Diversion (%)	21%	24%	26%	21%	8%		
Monthly ET (%)	15%	22%	24%	24%	15%		
Difference (%)= Monthly River Diversion-Monthly ET	6.00%	2.00%	2.00%	-3.00%	7.00%		
Difference in AF/A	0.198	0.066	0.066	-0.099	-0.231		
Difference based 10K Transfer (AF/AC)	1,980	660	660	-990	-2,310	-1,980	-2,640
Difference based 50K Transfer (AF/AC)	9,900	3,300	3,300	-4,950	11,550	-9,900	-13,200
Difference based on 100K Transfer (AF/AC)	19,800	6,600	6,600	-9,900	23,100	-19,800	-26,400